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**CLEAN WATER ACT COMPLIANCE INVESTIGATION**

**Sunrise Coal, LLC**  
Carlisle, Indiana  
NEIC Project No.: VP1179

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## APPENDICES

### (\*NEIC-Created Documents)

A	NPDES General Permit No. ING040199 Authorization (10 pages)
B	NPDES General Permit No. ING040199 Permit by Rule 327 IAC 15-7 (83 pages)
C	NPDES Individual Permit No. IN0062791 (46 pages)
D	*NEIC Permitting Background Report (33 pages)
E	*NEIC Photographs (24 pages)
F	Surface Main Drainage Map (1 page)
G	Sodium Permanganate-Containing Solution Invoice (2 pages)
H	Sodium Permanganate MSDS Documents (6 pages)
I	*GoogleEarthPro Aerial Image of Carlisle Mine (1 page)
J	Pond C As-built Diagram (1 page)
K	*NEIC Table of Permit Violations (2 pages)
L	EPA Region 5 Outfall 005 Augmentation Water Photograph (1 page)
M	DMRs from January 2013 to April 2016 (1242 pages)
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**This Contents page shows all of the sections contained in this report  
and provides a clear indication of the end of this report.**

## INTRODUCTION

At the request of U.S. Environmental Protection Agency (EPA) Region 5, EPA's National Enforcement Investigations Center (NEIC) provided support for a Clean Water Act (CWA) investigation of a mine and coal preparation plant (CPP) located in southwestern Indiana. Discharges from the mine and coal preparation plant are authorized by two National Pollutant Discharge Elimination System (NPDES) permits issued to Sunrise Coal, LLC (Sunrise Coal). Pollution control, wastewater generation, and management operations for the facility are subject to environmental permits and regulations administered by the EPA and the Indiana Department of Environmental Management (IDEM).

## FACILITY BACKGROUND

### Owner and Operator Background

The Carlisle Mine and CPP is located approximately 3 miles southeast of Carlisle, Indiana, off State Road 58. According to Mine Safety and Health Administration (MSHA) records, the Carlisle Mine (MSHA mine ID No. 1202349) and Carlisle Preparation Plant (MSHA ID No. 1202465) are currently operated by Sunrise Coal, LLC. MSHA records list the current controller of the site as Brent Bilsland. Mr. Brent Bilsland is the president and chief executive officer of Hallador Energy and Sunrise Coal, LLC. Sunrise Coal, LLC is a wholly owned subsidiary of Hallador Energy Company. The EPA's NPDES Integrated Compliance Information System (ICIS), accessed May 25, 2016, lists Mr. Bilsland as the cognizant official for NPDES permit No. IN0062791. Mr. Bilsland was not present during NEIC's June 2016 on-site inspection of the mine and CPP. As described during the inspection, Sunrise Coal applied for and obtained the various permits (mining and environmental) required to operate the mine and CPP. In addition to the Carlisle Mine, Sunrise Coal owns the Oaktown, Indiana, underground mines and the Ace in the Hole strip mine in Clay City, Indiana, and is currently permitting the Bulldog underground mine near Homer, Illinois.

### Regulatory Background

Sunrise Coal is authorized to discharge CPP process water, refuse and coal pile runoff, and storm water comingled with these sources under NPDES general permit No. ING040199 (**Appendix A**). The current general permit coverage became effective on November 1, 2015, and authorizes Sunrise Coal to discharge through three outfalls, as shown in **Table 1**. The general permit expires on November 30, 2019. Specific permit requirements under the general permit for "Facilities Engaged in Mining of Coal, Coal Processing, and Reclamation Activities" are outlined in 327 Indiana Administrative Code (IAC) 15-7 (**Appendix B**).

**Table 1. NPDES GENERAL PERMIT NO. ING040199 EFFLUENT AND MONITORING LOCATIONS**

**SUNRISE COAL, LLC**

**Carlisle, Indiana**

Monitoring Locations					
Outfall No.	Description of Area Serving	Description of Ponds Associated with the Outfalls	Receiving Water	Latitude (N)	Longitude (W)
202	Active mine and CPP associated areas	Pond D - Sedimentation Pond	Unnamed tributary to Marsh Creek	38°56'25"	-87°23'14"
003	Tailings pond	Pond 1 - Sedimentation Pond	Marsh Creek	38°56'34"	-87°22'09"
004	North Portal drainage area	Pond 2 Sedimentation Pond	Unnamed tributary to Middle Fork Creek	39°00'06"	-87°23'49"

Sunrise Coal is also authorized to discharge mine water under NPDES individual permit No. IN0062791 (**Appendix C**), which was modified on July 1, 2014, and expires on May 31, 2017. The individual permit authorizes Sunrise Coal to discharge through two outfalls, as shown in **Table 2**.

**Table 2. NPDES INDIVIDUAL PERMIT NO. IN0062791 EFFLUENT AND MONITORING LOCATIONS**

**SUNRISE COAL, LLC**

**Carlisle, Indiana**

Monitoring Locations					
Outfall No.	Description of Area Serving	Description of Ponds Associated with the Outfalls	Receiving Water	Latitude (N)	Longitude (W)
001	Active mine discharge water	Not applicable; to date, outfall not constructed	Busseron Creek	38°57'2"	-87°26'55"
005	Active mine discharge water*	Pond C	Berger Ditch	38°26'54"	-87°24'0"

\* The description relates to the permit authorization; outfall 005 was observed during the inspection to actually serve both the mine discharge water, as well as CPP and CPP-associated areas of contact storm water runoff.

Water quality effluent limits applicable to mine dewatering, required that an individual permit be issued for the facility's mine dewatering discharges. Detailed discussion on the background of the mine and CPP discharge permitting is provided in **Appendix D**.

## Facility Operations Background

Sunrise Coal's Carlisle operations consist of both a coal mine and a CPP. Construction of the Carlisle Mine began in late 2005, and coal production began in 2006. At its peak, Sunrise Coal had more than 360 employees and produced more than 3 million tons of coal annually. Currently, the combined mine and CPP operations employ 35 persons.

Currently, the Carlisle Mine is not operational; equipment is being removed from the mine, and areas of the mine are being permanently closed. The CPP is still in use, but only intermittently. At its peak, 12 underground mechanical mining units (MMUs), using the room and pillar approach for extracting coal were operated simultaneously. According to Sunrise Coal's website, the Carlisle Mine was 501 acres in size and operated at 350 to 440 feet deep, with access through a 2,400-foot drivable, dual-use slope at the CPP. The mine can also be accessed via an elevator at the North Portal. Coal was removed from the mine through a system of conveyor belts that transported the coal to the surface for treatment at the CPP. Approximately 2.8 million tons per year of coal were mined as recently as 2015. As of the date of the NEIC investigation, 3,540 tons of coal were mined in 2016. Water from the mine is collected in a series of eight to ten intermediary sumps. From the intermediary sumps (which are controlled by monitors at the surface), the water is pumped to a main sump and then to the surface. At the surface, the mine water is discharged into a ditch (see **Appendix E**, photograph RIMG0049) that flows into a large winding ditch, referred to by plant staff as the "lazy river" (**Appendix E**, photograph RIMG0037), where sediment is allowed to settle out before the water enters a sediment pond. At the time of the NEIC inspection, the mine discharge water was treated with a sodium hydroxide and sodium permanganate solution to aid in iron removal just before it entered the lazy river (**Appendix E**, photographs RIMG0038, RIMG0039, and RIMG0040). Jay Toney, Sunrise Coal Carlisle Mine manager of operations, stated that the mine had begun using this solution within the last 2 weeks due to its successful use at another Sunrise Coal mine. The concentration of chlorides and sulfates in the water collected in the Pond C sediment pond is reduced through the use of augmentation water (i.e., dilution water) taken from an on-site groundwater well. Discharge from the Pond C sediment pond is primarily through a pipe (outfall 005) that discharges onto a concrete control structure before discharging into a ditch. The permit also allows for mine water to be discharged through outfall 001, which has not yet been constructed (proposed outfall 001 location shown in **Appendix E**, photograph RIMG0076). Materials used in the mine that may come into contact with the mine discharge water include: process water taken from a groundwater well and used in the MMUs to control coal dust; pulverized limestone also used to control coal dust; and diesel fuel, hydraulic fluids, and coolants used in scoops and man-trip vehicles.

The coal processing plant and its associated areas consist of the processing plants (two units), raw and clean coal piles (**Appendix E**, photograph RIMG0063), refuse piles (**Appendix E**, photographs RIMG0065, RIMG0066, and RIMG0067) and clean coal stockpiles, mine tunnel and portal (**Appendix E**, photograph RIMG0078), equipment laydown yards (**Appendix E**, photographs RIMG0050 through RIMG0061), a variety of surface sumps (one with a caustic treatment unit), and three sediment ponds, as well as equipment/vehicle maintenance and administrative buildings. The two processing plants, referred to as Plants 1 and 2, have capacities of 350 tons per hour and 450 tons per hour, respectively. In the past, the processing plants often operated with 64- to 70-percent coal recovery, depending on the plant operating efficiency and the quality of the raw coal. Both processing plants use identical techniques to clean the raw coal (Plant 2 simply uses larger equipment). The processing units are served by a common coal feed line that

transports the raw coal via a collecting (conveyor) belt located in the raw coal reclaim tunnel beneath the raw coal pile to a variety of sizing/pulverizing equipment for coal sizes of greater than 6 inches, 2 to less than 6 inches, and less than 2 inches. The sized raw coal is then split and sent to either Plants 1, 2, or both. The coal preparation process is a wet process, and approximately 1,000 gallons per minute (gpm) of water from the CPP gravity thickener is added to hydrocyclones per unit (a total of 2,000 gpm with both units operational). The raw coal is then cleaned according to its relative particle size through a series of hydrocyclones, spiral units, and dryers (i.e., sieves). Fine materials (primarily waste rock) are sent to a gravity thickener (i.e., clarifier) unit (**Appendix E**, photograph RIMG0077) to settle out the fine material, which is then pumped (**Appendix E**, photograph RIMG0062) to the tailings pond (**Appendix E**, photograph RIMG0070). All of the water used in the CPP is provided either through a return line from the tailings pond (**Appendix E**, photograph RIMG0069), makeup water from the mine water discharge sediment pond (**Appendix E**, photograph RIMG0064), or, when needed, makeup water from a groundwater well. The CPP was last used 2 weeks prior to the NEIC inspection. It was operated approximately three times in 2016; before the coal mine ceased operations, the CPP historically was operated approximately 22 days a month. Currently, the CPP is used intermittently to process coal from other facilities.

## **ON-SITE INSPECTION SUMMARY**

### **Introduction**

NEIC conducted the on-site inspection of Sunrise Coal from June 7 through June 9, 2016. The NEIC inspection team consisted of David Gwisdalla and Mike Lukowich. Jonathan Moody and John Jurevis of EPA Region 5 also participated in the NEIC inspection. Keith Condra of the IDEM Office of Compliance Support and Holly Zurcher of the IDEM Office of Water Quality were present for the inspection. John Voight, Brock Mayes, and Jayne Peltier of the Indiana Department of Natural Resources (IDNR) also were present for the inspection.

Credentials were presented to Jay Toney, Sunrise Coal Carlisle Mine's manager of operations, during the opening meeting on June 7, 2016. Anthony Brklach, Scott McGuire, Tommy Sutton, and Dean Weik from Sunrise Coal and Kevin McGuire from Jackson Kelly, PLLC, Sunrise Coal's attorney, were also present during the inspection. An exit meeting was held on June 10, 2016, to discuss preliminary inspection observations.

### **Inspection Activities**

NEIC inspectors assessed Sunrise Coal's compliance with the requirements of the two NPDES permits. The assessment rests on detailed discussions and field observations of the mine and CPP processes, process water generation sources, treatment facilities, settling ponds and sumps, outfall locations, and sampling and monitoring locations. The assessment also included a review of facility records, including: discharge monitoring reports (DMRs) and supporting

documentation, material and production records, operator certifications, drainage maps, and pond design/construction diagrams. NEIC inspectors reviewed Sunrise Coal's DMRs and all supporting documents from January 2013 through April 2016 for compliance with permit monitoring requirements, accuracy of the reported data, and discharge limits. Discrepancies are documented in the following "Summary of Findings" section. During the NEIC inspection, EPA Region 5 staff collected treated and untreated process wastewater from a variety of locations as well as in-stream locations. The sampling was neither included as part of the NEIC inspection nor are the analytical results included in this report.

## SUMMARY OF FINDINGS

Findings identified by NEIC during the investigation are summarized in **Table 3**. These findings are linked to specific supporting documents that can be found in individual appendices to this table. These findings can be categorized as either areas of potential noncompliance (AOPN) or areas of concern. Areas of concern are inspection observations of potential problems or activities that could impact the environment, result in future or current noncompliance, and/or are areas associated with pollution prevention.

**Table 3. SUMMARY OF FINDINGS**

Sunrise Coal, LLC  
Carlisle, Indiana

#	Regulatory Citation	Findings/Observations	Evidence
<b>AREAS OF POTENTIAL NONCOMPLIANCE</b>			
<b>1</b>	<p><b>NPDES Permit No. IN0062791, Part I.A.2</b></p> <p>The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 005. The discharge is limited to mine water.</p>	<p><u><b>Finding</b></u></p> <p><b>NEIC inspectors observed mine discharge, and noted that contact storm water from various CPP activities would co-mingling with the mine discharge in the Pond C sediment pond prior to their discharge through outfall 005. The contact storm water that enters Pond C is runoff from the CPP's raw coal piles, clean coal piles, coal refuse storage piles, along with runoff from other CPP-associated areas (e.g., runoff from haul roads and equipment storage areas).</b></p> <p><u><b>Supporting Notes</b></u></p> <p>The Sunrise Coal Carlisle Mine surface main drainage map (<b>Appendix F</b>) for the CPP illustrates the location of the mine water discharge and on-site process water discharges that flow into Pond C. As observed by NEIC inspectors, refuse pile runoff is collected in a sump and then treated with caustic (NaOH) before discharging into the lazy river, where it co-mingles with mine discharge water (<b>Appendix E</b>, photographs RIMG0035, RIMG0036, and RIMG0037).</p> <p>The briefing memo (included in <b>Appendix C</b>) for NPDES permit No. IN0062791, Section 2.4, "Facility Storm Water," states, "Surface runoff from the mine surface facilities are diverted to two (2) sedimentation basins covered under General Permit ING040199." The briefing memo, Section 5.2, "Technology-Based Effluent Limits," states, "The discharge of precipitation runoff is covered under permit</p>	<p><b>Appendix C</b> – NPDES Individual Permit No. IN0062791</p> <p><b>Appendix F</b> – Surface Main Drainage Map</p> <p><b>Appendix E</b> – NEIC Photographs</p> <p><b>Appendix D</b> – NPDES Permitting Background Report</p>

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**Sunrise Coal, LLC**  
**Carlisle, Indiana**

#	Regulatory Citation	Findings/Observations	Evidence
		<p>number ING040199 and is not commingled with the discharge of mine water covered under this NPDES permit.”</p> <p>As noted in <b>Appendix D</b>, Sunrise Coal never constructed the outfall 001 specified in the individual permit. Under a November 19, 2012, “Agreed Order,” IDEM approved a compliance plan that outlined the inclusion of the existing outfall 001 from Pond C (actually outfall 002) under the general permit into the individual permit (see <b>Appendix D</b>). This is the location where mine discharge water, permitted as outfall 005, was currently being diverted to, and it was known that the mine discharge water was comingled with contact storm water.</p>	
2	<p><b>NPDES Permit No. IN0062791, Part I.A.2, Table 1, note 1.:</b> In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 005, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.</p>	<p><b><u>Finding</u></b></p> <p><b>NEIC inspectors observed mine discharge water being treated with an unapproved chemical, sodium permanganate, which is not allowed for mine water treatment without approval.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>NEIC inspectors observed mine discharge water being treated by direct application of a chemical solution (<b>Appendix E</b>, photographs RIMG0038, RIMG0039, and RIMG0040). NEIC inspectors noted that the two 275-gallon toters placed adjacent to the mine discharge water ditch (located prior to the lazy river) were labelled with NaOH/KOH solution. According to Jay Toney, the labels on the 275-gallon toters were inaccurate, as the toters were reused, and Sunrise Coal staff had added sodium permanganate solution to the toters for use in treating the mine discharge water within the last 2 weeks. A copy of the invoice indicating the date the materials were purchased, May 26, 2016, is provided in <b>Appendix G</b>, and the material safety data sheet for the solution is provided in <b>Appendix H</b>. According to a GoogleEarthPro aerial image of the site, dated March 28, 2016 (<b>Appendix I</b>), both toters are not at this same location; a single container is located near this area but is not adjacent to the ditch, as observed during the investigation. The NPDES permit No. IN0062791 briefing memo (<b>Appendix C</b>), Section 5.7, “Water Treatment Additives,” states, “The following water treatment additives were listed as approved for use at the facility: Hydrated Lime, Calcium Oxide, Sodium Hydroxide, Soda Ash, and Aluminum Sulfate.”</p>	<p><b>Appendix C – NPDES Individual Permit No. IN0062791</b></p> <p><b>Appendix E – NEIC Photographs</b></p> <p><b>Appendix G – Sodium Permanganate-Containing Solution Invoice</b></p> <p><b>Appendix H – Sodium Permanganate MSDS Document</b></p> <p><b>Appendix I – GoogleEarthPro Aerial Image of Carlisle Mine</b></p> <p>Discussions with facility recorded in David Gwisdalla’s project logbook</p>

**Table 3. SUMMARY OF FINDINGS**  
**Sunrise Coal, LLC**  
**Carlisle, Indiana**

#	Regulatory Citation	Findings/Observations	Evidence
<b>3</b>	<p><b>NPDES Permit No. IN0062791, Part II.B.1, Proper Operation and Maintenance</b></p> <p>The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for the collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(8).</p> <p><b>NPDES Permit No. IN0062791, Part I.A.2</b></p> <p>Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Berger Ditch.</p>	<p><b><u>Finding</u></b></p> <p><b>NEIC inspectors observed that the concrete outfall discharge control structure for Pond C, outfall 005, was significantly undercut, and the soils beneath the control structure were eroding; the control structure was in need of repair and maintenance to prevent further undercutting and erosion.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>Pond C's outfall control structure is noted on the as-built diagram (<b>Appendix J</b>) as having rip-rap rock armoring to prevent erosion. As noted by NEIC inspectors, the outfall control structure was significantly undercut as a result of discharges from the pond (<b>Appendix E</b>, photographs RIMG0044 and RIMG0045). NEIC inspectors estimated that the area of armoring that was undercut and eroded (as shown in the photographs) was approximately 35 feet long by 15 feet wide. The permit also requires the compliance monitoring point to be representative of the discharge into Berger Ditch. With the additional pollutant loading caused by the erosion, the current upstream monitoring location would not be considered representative of the discharge.</p>	<p><b>Appendix C – NPDES Individual Permit No. IN0062791</b></p> <p><b>Appendix J – Pond C As-built Diagram</b></p> <p><b>Appendix E – NEIC Photographs</b></p> <p>Discussions with facility staff recorded in David Gwisdalla's project logbook</p>
<b>4</b>	<p><b>NPDES Permit No. IN0062791, Part I.A.2, Table 1 –</b></p> <p><b>DISCHARGE LIMITATIONS</b></p>	<p><b><u>Finding</u></b></p> <p><b>From July 1, 2014 to April 2016, Sunrise Coal exceeded effluent limits eleven times at outfall 005 that were specified in the individual permit.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>NEIC inspectors reviewed Sunrise Coal's DMRs for January 2013 to April 2016. See <b>Appendix K</b> for a "Table of Permit Violations" for exceedances of effluent limits over that time period. A copy of the DMRs documenting the exceedances are contained in <b>Appendix M</b>.</p>	<p><b>Appendix C – NPDES Individual Permit No. IN0062791</b></p> <p><b>Appendix K – NEIC Table of Permit Violations with DMRs</b></p> <p><b>Appendix M – DMRs from January 2013 to April 2016</b></p>
<b>5</b>	<p><b>NPDES Permit No. ING040199, outlined in the Permit Rule, under 327 IAC 15-4-2m Management requirements, Section 2(a)</b></p>	<p><b><u>Finding</u></b></p>	<p><b>Appendix B – NPDES General Permit No. ING040199 Permit by Rule 327 IAC 15-7</b></p>

**Table 3. SUMMARY OF FINDINGS**  
**Sunrise Coal, LLC**  
**Carlisle, Indiana**

#	Regulatory Citation	Findings/Observations	Evidence
	<p>Persons regulated by this article shall, at all times, maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the person and which are necessary for achieving compliance with the terms and conditions of this article.</p> <p><b>NPDES Permit No. ING040199, outlined in the Permit Rule, under 327 IAC 15-7-7 General conditions, Section 7(a)</b></p> <p>A person regulated under this rule is authorized to discharge through the outfalls identified in the NOI letter in accordance with this rule. Such discharges shall be limited and monitored as follows:[*]</p> <p><i>*Parts a(1), a(2), a(3), and a(4) require flow monitoring.</i></p>	<p><b>Sunrise Coal failed to monitor the discharge from outfall 202 due to the lack of proper monitoring procedures for, or proper maintenance of, outfall 202.</b></p> <p><u><b>Supporting Notes</b></u></p> <p>NEIC inspectors observed Pond D, outfall 202, discharging (<b>Appendix E</b>, photograph RIMG0025) on June 7 and June 8, 2016. Hubert “Huey” Simmons, a field sampling technician who works for Rosedale Services, Inc., a contractor for Sunrise Coal, stated that his practice is to check the ditch downstream (<b>Appendix E</b>, photograph RIMG0022) of outfall 202 for flow to determine if he needs to collect a sample. If Mr. Simmons observes no flow in the ditch, he counts the outfall 202 as “no discharge.” According to Mr. Simmons, water routinely flows into Pond D; however, he rarely observes water flowing out. During the inspection, NEIC inspectors asked Mr. Simmons to determine if there was discharge from outfall 002. Mr. Simmons determined that there was no discharge through his inspection of the ditch downstream of outfall 002. NEIC inspectors investigated the drainage ditch directly downstream of Pond D and outfall 002. They discovered in the ditch, between outfall 002 and the sampling location, a small underdrain that was diverting flow from the ditch. The underdrain and how or where it conveyed the water is unknown, and facility staff, as well as Mr. Simmons, claimed they were unaware of its existence.</p>	<p><b>Appendix E – NEIC Photographs</b></p> <p>Discussions with facility staff recorded in David Gwisdalla’s project logbook</p>
6	<p><b>NPDES Permit No. IN0062791, Part I.A.2, Table 1, note 3.:</b> The volume of water used to augment the discharge flow shall be recorded on the same day of the week as the total discharge flow.</p>	<p><u><b>Finding</b></u></p> <p><b>NEIC inspectors observed augmentation water from the groundwater well flowing at a low rate and directly discharging onto outfall 005’s concrete discharge overflow control structure. According to Jay Toney, the augmentation water was left flowing to prevent the augmentation water line from freezing during the winter months.</b></p> <p><u><b>Supporting Notes</b></u></p> <p>During their initial observation of Pond C, outfall 005, on June 7, 2016, NEIC inspectors observed no discharge was from Pond C. NEIC inspectors observed augmentation water from the groundwater</p>	<p><b>Appendix C – NPDES Individual Permit No. IN0062791</b></p> <p><b>Appendix L – EPA Region 5 Outfall 005 Augmentation Water Photo</b></p> <p><b>Appendix E – NEIC Photographs</b></p> <p>Discussions with facility staff recorded</p>

**Table 3. SUMMARY OF FINDINGS**

**Sunrise Coal, LLC  
Carlisle, Indiana**

#	Regulatory Citation	Findings/Observations	Evidence
		<p>well flowing at a low rate and directly discharging onto the outfall's concrete discharge overflow control structure. Sunrise Coal staff placed the augmentation water pipe just downstream of the outfall's outlet pipe to prevent it from discharging into Pond C, but this discharge was not specifically authorized in the individual permit. The augmentation water was not "mixing" with the discharge for the purpose of meeting water quality standards for chloride and sulfate, but instead was free flowing.</p> <p>Sunrise Coal staff stated that they discharge augmentation water at the outfall during freezing temperatures to prevent the augmentation water hose from freezing. On June 7, 2016, NEIC inspectors observed the augmentation water discharging from the pipe, directly onto the Pond C sediment pond concrete discharge overflow control structure (<b>Appendix L</b>). Upon the arrival of the NEIC inspectors, Sunrise Coal staff immediately shut off the hose's discharge (<b>Appendix E</b>, photograph RIMG0016). The May 2016 DMR for the NPDES individual permit stated that no augmentation water was used (<b>Appendix K</b>).</p> <p>According to Jay Toney, Sunrise Coal would need to find an acceptable alternative to allow discharge of augmentation water during cold-weather conditions to ensure the augmentation water hose does not freeze.</p>	<p>in David Gwisdalla's project logbook</p>
7	<p><b>NPDES Permit No. IN0062791, Part I.A.2, Table 1, note 5.:</b> "The above [*] noted parameters shall be analyzed and values reported prior to mixing with other waste streams for purposes of flow augmentation."</p> <p><i>*The parameters listed in Table 1 of the permit include: TSS, copper, iron, manganese, nickel, zinc, and aluminum.</i></p>	<p><b><u>Finding</u></b></p> <p><b>Samples for TSS, copper, iron, manganese, nickel, zinc, and aluminum at outfall 005 were not collected before the discharge from outfall 005 was mixed with augmentation water.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>According to the DMRs and the supporting lab data sheets provided by RoseDale Services, Inc. to Sunrise Coal from July 1, 2014 (<b>Appendix M</b>), until the time of NEIC inspection; field observations; and interviews with facility staff, Sunrise Coal staff or their contractors did not properly sample the discharge from outfall 005. Outfall monitoring required by the NPDES individual permit requires all parameters, except chloride and sulfate, to be sampled following</p>	<p><b>Appendix C</b> – NPDES Individual Permit No. IN0062791</p> <p><b>Appendix M</b> – DMRs from January 2013 to April 2016</p> <p>Discussions with facility staff recorded in David Gwisdalla and Mike Lukowich's project logbook.</p>

**Table 3. SUMMARY OF FINDINGS**  
**Sunrise Coal, LLC**  
**Carlisle, Indiana**

#	Regulatory Citation	Findings/Observations	Evidence
		treatment of the mine discharge water in the sedimentation pond but prior to flow augmentation. Discharge from outfall 005 was sampled only following flow augmentation. DMRs report no flow augmentation volumes, but Sunrise Coal staff indicated that well water was always used to dilute flows prior to sampling from Pond C, outfall 005, and the addition of the well water was not recorded on the DMRs.	
8	<p><b>NPDES Permit No. IN0062791, Part I.A.2, Table 1.</b></p> <p>The total suspended solids (TSS), copper, iron, chloride, sulfate, manganese, nickel, zinc, and aluminum are all parameters required to be sampled using composite samples, which shall be a minimum of four grab samples spaced equally during the entire period of the discharge.</p>	<p><b><u>Finding</u></b></p> <p><b>Composite samples are not collected from discharges related to outfall 005 for analysis of TSS, metals, chloride, and sulfate.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>According to the lab data sheets provided by RoseDale Services, Inc. to Sunrise Coal from July 1, 2014 until the time of NEIC inspection (<b>Appendix M</b>), neither the Sunrise Coal staff nor their contractors took the required composite samples for analysis of total suspended solids, metals, chloride, or sulfate on several dates. According to the lab data sheets attached to the DMRs, only a single grab sample was collected anytime there was a discharge in the month that was sampled. All the lab data sheets indicate a day and single time when the discharge was sampled.</p> <p>NEIC questioned facility staff and the contractor that performed the sampling at outfall 005 on the procedures employed to collect the sample. Facility staff confirmed that a single grab sample was taken anytime the pond was discharging and the day and time of the sample is noted on the lab data sheets.</p>	<p><b>Appendix C – NPDES Individual Permit No. IN0062791</b></p> <p><b>Appendix M – DMRs from January 2013 to April 2016</b></p> <p>Discussions with facility recorded in David Gwisdalla's project logbook</p>

**Table 3. SUMMARY OF FINDINGS**  
**Sunrise Coal, LLC**  
**Carlisle, Indiana**

#	Regulatory Citation	Findings/Observations	Evidence
<b>9</b>	<p><b>NPDES Permit No. IN0062791, Part I.A.2, Table 1.</b></p> <p>Flow is to be reported as a “24-Hour Total” on a weekly basis.</p>	<p><b><u>Finding</u></b></p> <p><b>Total flow is not reported for discharges related to outfall 005, but rather instantaneous flow is estimated at the time a single grab sample is taken.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>Instantaneous flows are estimated, according to Huey Simmons, the field sampling technician.</p>	<p><b>Appendix C – NPDES Individual Permit No. IN0062791</b></p> <p>Discussions with facility staff recorded in David Gwisdalla’s project logbook</p>
<b>10</b>	<p><b>NPDES Permit No. IN0062791 – (Renewed) Issued February 10, 2012</b></p> <p><b>NPDES General Permit ING040199 – (Renewed) Issued September 15, 2009</b></p>	<p><b><u>Finding</u></b></p> <p><b>From September 15, 2009, until the individual permit was modified on July 1, 2014, Sunrise Coal was discharging mine water from pond C, outfall 002 (mistakenly referred to as outfall 001), which was not authorized by an NPDES permit.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>On April 30, 2007, an individual permit was issued to Sunrise Coal, which authorized the treatment and discharge of mine water from remote outfall 001.</p> <p>On September 15, 2009, the general permit was renewed and no longer authorized mine water to be treated and discharged from the existing sedimentation ponds.</p> <p>The “Agreed Order” between IDEM and Sunrise Coal outlines the permitting history for the discharge of mine water (<b>Appendix D</b>). When the general permit was renewed on September 15, 2009, mine water was no longer authorized to be discharged from the sedimentation ponds. Outfall 001 under the individual permit was never constructed. Mine water continued to be discharged from sedimentation pond C, outfall 002 (mistakenly referred to as outfall 001) after September 15, 2009. This discharge was not authorized in the individual permit until it was modified on July 1, 2014, under the approved compliance plan.</p>	<p><b>Appendix D – NPDES Permitting Background Report</b></p> <ul style="list-style-type: none"> <li>• <b>Appendix D; Attachment 2 – Agreed Order dated November 19, 2012</b></li> <li>• <b>Appendix D; Attachment 3 – IDEM Compliance Plan Approval dated March 19, 2013</b></li> </ul>
<b>AREAS OF CONCERN</b>			

**Table 3. SUMMARY OF FINDINGS**  
**Sunrise Coal, LLC**  
**Carlisle, Indiana**

#	Regulatory Citation	Findings/Observations	Evidence
<b>A</b>	<p><b>NPDES Permit No. ING040199, outlined in the Permit Rule, under 327 IAC 15-7-7 General conditions, Section 7(a)(1-3)</b></p> <p>Requires monitoring of the discharges from active mining areas and coal preparation plant and associated areas.</p>	<p><b><u>Concern</u></b></p> <p><b>The discharge from each treatment pond (Pond D, outfall 202; Pond 1, outfall 003; and Pond 2, outfall 004) is evaluated on a weekly basis without regard to actual discharge events that may occur at the ponds.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>Huey Simmons, the field sampling technician, stated that he inspects each of the outfalls when he is on-site to determine if they are discharging; he is usually on-site on a weekly basis. A discharge is likely to occur between Mr. Simmons’ weekly inspections and not be observed and therefore not reported. NEIC inspectors observed both Pond D and Pond 2 when their water levels were at, or near, the level of the discharge structure; thus, any precipitation causing runoff would likely cause a discharge.</p>	<p><b>Appendix B – NPDES General Permit No. ING040199 Permit by Rule 327 IAC 15-7</b></p> <p>Discussions with facility staff recorded in David Gwisdalla’s project logbook</p>
<b>B</b>	<p><b>NPDES Permit No. IN0062791, Part I.A.2, Table 1.</b></p> <p>Augment water flow is to be reported as a “24-Hour Total” on a weekly basis.</p> <p><b>NPDES Permit No. IN0062791, Part I.A.2, Table 2, note 5.:</b> “The above [*] noted parameters shall be analyzed and values reported prior to mixing with other waste streams for purposes of flow augmentation.”</p> <p><i>*The parameters listed in Table 1 of the permit include: TSS, copper, iron, manganese, nickel, zinc, and aluminum.</i></p>	<p><b><u>Concern</u></b></p> <p><b>No procedures have been developed to record or document the flow of augmentation water used to dilute the chlorides and/or sulfates in the water discharged from outfall 005. On the basis of discussions with staff, augmentation water is not provided at any specified rate to ensure the water discharged from outfall 005 meets water quality discharge standards.</b></p> <p><b>There is also a concern that the discharge from outfall 005 may not be sampled prior to augmentation, as required by the permit, as discussed in AOPN 7.</b></p>	<p><b>Appendix C – NPDES Individual Permit No. IN0062791</b></p> <p>Discussions with facility staff recorded in David Gwisdalla’s project logbook</p>
<b>C</b>	<p><b>NPDES Permit No. IN0062791, Part II.A.8, Oil and Hazardous Substance Liability</b></p> <p>Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.</p>	<p><b><u>Concern</u></b></p> <p><b>A spill prevention control and countermeasures (SPCC) plan for the site was not readily available upon request by NEIC inspectors.</b></p>	<p><b>Appendix C – NPDES Individual Permit No. IN0062791</b></p> <p><b>Appendix E – NEIC Photographs</b></p>

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#	Regulatory Citation	Findings/Observations	Evidence
		<p><b><u>Supporting Notes</u></b></p> <p>NEIC inspectors requested a copy of the SPCC plan on June 8, 2016. No SPCC plan was available/provided during the inspection. NEIC inspectors observed oil-containing-substance storage tanks at the CPP with a total capacity of more than 1,320 gallons. The storage of the used oils, on-site, needs better management practices. NEIC inspectors noted spilt material from used oil-containing drums and totes. NEIC inspectors also noted significant staining of spilt material in the used oil storage area and other areas where oil-containing substances were stored. NEIC inspectors did not observe any spill response materials on-site. According to Tommy Sutton, Sunrise Coal's mine engineer, spill response materials were not available at the tank farm, shown in <b>Appendix E</b>, photographs RIMG0058 and RIMG0059. (Also see <b>Appendix E</b>, photographs RIMG0051-59, RIMG0061, and RIMG0074.)</p> <p>Sunrise Coal sent NEIC a copy of a SPCC plan, dated June 30, 2016 (<b>Appendix N</b>), on July 1, 2016.</p>	<p><b>Appendix N</b> – SPCC Plan, dated June 30, 2016</p> <p>Discussions with facility staff recorded in David Gwisdalla's project logbook</p>
<b>D</b>	<p><b>NPDES Permit No. ING040199, outlined in the Permit Rule, under 327 IAC 15-7-7</b></p> <ul style="list-style-type: none"> <li>• General conditions, Section 7(a)(1-3)</li> <li>• General conditions, Section 7(c)</li> </ul> <p><b>Section 7(a)(1-3) – Applies effluent limits to discharges of mine water with a status of</b></p> <p>(a) Undetermined, (b) alkaline, (c) acid</p> <p><b>Section 7(c) – Allows for alternate wet weather effluent limits for</b></p> <p>(1) Precipitation event &lt; 10yr, 24-hr  (2) Precipitation event &gt;10yr, 24-hr</p>	<p><b><u>Concern</u></b></p> <p><b>The NPDES general permit allows for alternate effluent limits for the discharge if the discharge was the result of wet weather. The wet weather limits are:</b></p> <ul style="list-style-type: none"> <li>• Less than 10yr, 24-hr rain event – <math>6.0 &lt; \text{pH} &lt; 9.0</math></li> </ul> <p style="text-align: center;"><b>Settable solids &lt; 0.5 ml/l</b></p> <ul style="list-style-type: none"> <li>• Greater than 10yr, 24-hr rain event – Settable solids , 0.5 ml/l</li> </ul> <p><b>Sunrise Coal has no documentation to justify the application of wet weather limits.</b></p> <p><b><u>Supporting Notes</u></b></p>	<p><b>Appendix A</b> – General Permit No. ING040199</p> <p><b>Appendix B</b> – NPDES General Permit No. ING040199 Permit by Rule 327 IAC 15-7</p>

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**Carlisle, Indiana**

#	Regulatory Citation	Findings/Observations	Evidence
		<p>The application Sunrise Coal submitted requesting the removal of outfall 001 (actually 002) from the general permit stated that the dry-weather base flow for all outfalls is zero. In the application, the facility implied that any discharge from the ponds would be wet weather induced and, thus, the alternate effluent limits would always apply. However, NEIC review of the monthly monitoring reports (MMRs) from January 2013 until the time of the NEIC inspection shows that the facility sometimes monitors the discharge for the dry weather effluent limits and sometimes applies the alternate wet weather effluent limits.</p> <p>The facility should document if any dry-weather base flow is discharging from any of the ponds covered under the general permit. A justification of which effluent limits apply at the time of a discharge should be incorporated into the sampling protocol and documented on the field logs. Without this documentation, it is impossible to determine which effluent limits apply to the discharge at the time of monitoring.</p>	
<b>E</b>	<p><b>NPDES Permit No. ING040199, outlined in the Permit Rule, under 327 IAC 15-7-7 General conditions, Section 7(a)(1-3)</b></p> <p>Requires the discharges from active mining areas and coal preparation plant associated areas to measure and document the instantaneous flow.</p> <p><b>NPDES Permit No. ING040199, outlined in the Permit Rule, under 327 IAC 15-7-7 General conditions, Section 7(d)(4)</b></p> <p>Samples and measurements taken as required in this section shall be representative of the volume and nature of the monitored discharge.</p>	<p><b><u>Concern</u></b></p> <p><b>The techniques used to measure flow at outfalls 003, 004, and 202 do not provide results that are representative of the discharge volume and nature of the monitored discharge.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>NEIC inspectors observed Pond 1, outfall 003, discharging (<b>Appendix E</b>, photograph RIMG0030) on June 7 and June 8, 2016. During the on-site inspection, Huey Simmons, the field sampling technician, described his flow estimation technique. Mr. Simmons stated that he uses a measuring tape to estimate the area the water was flowing through, including the width and the depth of the water. Mr. Simmons stated that he uses a twig, leaf, or other item on the surface of the water to estimate the flow rate at the sampling location downstream of Pond 1, outfall 003(<b>Appendix E</b>, photograph RIMG0030). He said he uses a similar technique at Pond 2, outfall 004, at the North Portal, to measure flow after it discharges from a pipe (<b>Appendix E</b>, photographs RIMG0033 and RIMG0034), and at Pond D, outfall 202 (<b>Appendix E</b>, photograph RIMG0023). Instantaneous flow</p>	<p><b>Appendix B – NPDES</b> General Permit No. ING040199 Permit by Rule 327 IAC 15-7</p> <p><b>Appendix E – NEIC</b> Photographs</p> <p>Discussions with facility staff recorded in David Gwisdalla's project logbook</p>

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**Carlisle, Indiana**

#	Regulatory Citation	Findings/Observations	Evidence
		calculations should be documented and justified using standard engineering techniques to ensure quality and consistency in the data. The locations where Mr. Simmons estimated the discharge flow rates at the outfalls are armored with rocks of various shapes and sizes; it would be difficult to obtain an accurate or repeatable measurement of the flow rates.	
<b>F</b>		<p><b><u>Concern</u></b></p> <p><b>NEIC inspectors noted erosion caused by storm water runoff from a refuse pile that the berm around the refuse pile needs repair.</b></p> <p><b><u>Supporting Notes</u></b></p> <p>NEIC inspectors noted evidence of storm water runoff (in the form of erosion rills) on the north side of the refuse pile access road. Surface water runoff from the refuse pile flowed down the slope and into the mine drainage ditch. The refuse pile berm needs repair/maintenance to reduce co-mingling of storm water runoff with refuse pile storm water runoff (<b>Appendix E</b>, photographs RIMG0048, RIMG0049, and RIMG0075), as documented in <b>AOPN 1</b>.</p>	<b>Appendix E – NEIC Photographs</b>